

a substantially pure heparinase comprising a modified heparinase II that can cleave a glycosaminoglycan substrate having a modified heparinase II k_{cat} value, wherein the modified heparinase II k_{cat} value is at least 10% different than a native heparinase II k_{cat} value, and

a substantially pure heparinase comprising a modified heparinase I wherein the modified heparinase I has enzymatic activity that is not dependent on the presence of calcium.

33. (Amended) The method of claims 30, wherein the method is a method of removing heparin from a heparin containing fluid.

46. (Amended) A method of specifically cleaving a heparan sulfate-like glycosaminoglycan, comprising:

contacting a heparan sulfate containing fluid with the heparinase of any one of
a substantially pure heparinase comprising a modified heparinase II having a modified product profile, wherein the modified product profile of the modified heparinase II is at least 10% different than a native product profile of a native heparinase II and

a substantially pure heparinase comprising a modified heparinase II that can cleave a glycosaminoglycan substrate having a modified heparinase II k_{cat} value, wherein the modified heparinase II k_{cat} value is at least 10% different than a native heparinase II k_{cat} value.

47. (Amended) The method of claim 46, wherein the method is a method of removing heparan sulfate from a heparan sulfate containing fluid.

Please cancel claims 1-29, 35-45 and 50-57.

REMARKS

Claims 30-34 and 46-49 are pending. Claims 30 and 46 have been amended in view of the restriction requirement. Claims 33 and 47 were amended to remove a non-essential limitation. Claims 1-29, 35-45 and 50-57 have been withdrawn from consideration and were canceled by Applicant. No new matter has been added.